

Helping Massachusetts Municipalities Create a Cleaner Energy Future

GREEN COMMUNITIES
Massachusetts Department of Energy Resources

COMMONWEALTH OF MASSACHUSETTS
Deval L. Patrick, Governor
Richard K. Sullivan, Jr., Secretary
Mark Sylvia, Commissioner

MA Stretch Energy Code Update Discussion

Webinar
October, 2013

*Thank you for joining us.
The webinar will start in a few minutes...*

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**Introduction:
Green Communities Division**

Lisa Capone
Deputy Director
Green Communities Division

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Green Communities Division

Serves as the hub for all Massachusetts cities and towns on energy matters

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Green Communities Division - Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Program
- Energy Management Services Technical Assistance
- Clean Energy Results Program (CERP)
- Mass Municipal Energy Group (MMEG)
- Website filled with tools & resources
www.mass.gov/energy/greencommunities
- Email updates via e-blasts – Sign up by sending an email to: join-greencommunities@listserv.state.ma.us

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Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:



SERO – LAKEVILLE: Seth Pickering
Seth.Pickering@state.ma.us

NERO – WILMINGTON: Joanne Bissetta
Joanne.Bissetta@state.ma.us

CERO – WORCESTER: Kelly Brown
Kelly.Brown@state.ma.us

WERO – SPRINGFIELD: Jim Barry
Jim.Barry@state.ma.us



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Green Communities Act - Criterion 5

- Requires that: *all new residential construction over 3,000 square feet and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.*
- The **Stretch energy code** was developed by the BBRS in response to municipal requests to go beyond the base energy code that predate the GCA.
- The first (2009) version appends the 2009 IECC to require approximately a 20% increase in energy efficiency for new construction.

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Benefits of a Stretch energy code

- The Stretch code provides a clear way for municipalities to meet the requirements of the Green Communities Designation and Grant Program without seeking exemption from BBRS energy code jurisdiction.
- BUT....
 - The 2009 stretch energy code appends the IECC 2009, which will no longer be MA code after July 1, 2014.



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Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at:
www.mass.gov/energy/greencommunities
- The slide presentation will also be posted at:
www.mass.gov/energy/greencommunities
- Website and contact information is listed at end of presentation



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Presenters

Ian Finlayson
DOER Energy Efficiency Division, Deputy Director

Mike Guigli
Technical Director, Department of Public Safety



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Poll Question #1

- **Why are you participating in today's webinar?**
Are you:
 - Working in the building industry
 - Part of a town or city that has adopted the stretch energy code
 - Part of a town or city that is considering adopting the stretch energy code
 - A consultant or energy specialist
 - Other



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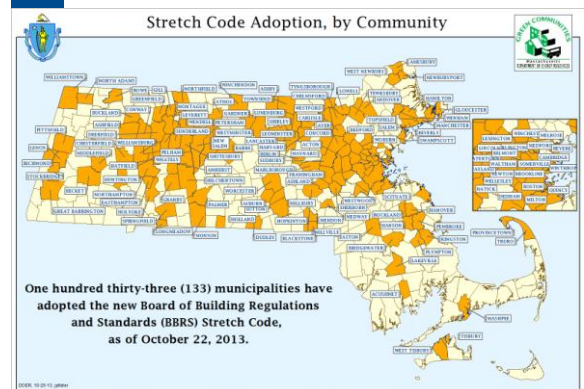
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Background on Stretch code update

- Introduced in 2009 by the MA Board of Building Regulations and Standards (BBRS)
- Highly successful as part of Green Communities: adopted by over 130 cities and towns
- Influenced the national model energy code: the IECC2012 which updates in MA July, 1 2014
- A stretch code update would avoid confusion and maintain a clear Green Communities compliance path



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Apparent reasons for success

- Performance-based approach appears to be working:
 - HERS ratings market growing in MA and nationally
 - ASHRAE 90.1 modeling growing in MA and nationally due to LEED.
 - 20% savings have been achieved without disruption to construction or real estate markets
 - Consumers have voted with their feet – 133 communities

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Apparent reasons for success

- Financial and Technical Support is critical
 - Statewide training on new base and stretch code, on how to meet and exceed code requirements
 - Green communities grants and technical assistance to municipalities
 - Mass Save Utility program provides incentives for above base-code performance to builders/developers

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Comparing Codes: Stretch code (2009) & the new base code (IECC 2012)

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Residential: IECC2012 vs. Stretch code Different but similar stringency

IECC2012 - Residential

- Requires Blower door
- HERS optional (MA 65)
- Primarily prescriptive
- Similar envelope / insulation checklist

Stretch Code (2009)

- HERS required (new homes)
- Only additions & renovations are prescriptive
- Uses EPA not ICC envelope checklist

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Commercial: IECC2012 vs. Stretch code Virtually identical except above 100,000 sq ft

IECC2012 – Commercial

- ASHRAE/LEED modeling is optional, and compares design to standard 90.1-2010

Stretch Code (2009)

- ASHRAE/LEED modeling required above 100,000 sq ft. or supermarkets, Labs over 40,000 sq ft. Based on older standard 90.1-2007

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Incremental update to stretch code

- Desire to ensure Stretch code continues
 - Base code catches up – July 1, 2014
 - Meets Green Communities Criterion 5
 - Opportunity to improve and streamline code language in response to builder/developer input
 - Maintain leadership and influence over IECC and ASHRAE codes that become future MA base energy code.

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Areas for Public Comment

We invite public comment on how to best update the stretch energy code, organized in 3 areas:

1. Please comment on the proposed 'Core Concepts'
2. Please comment on specific 'Suggested Improvements'
3. Please add new suggestions / areas for improvement



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1. Core Concepts

- Maintain core design approach of stretch code
 - HERS ratings, ASHRAE modeling
- Align with next IECC2015 / ASHRAE 2013
 - Use similar definitions, and align language where practical
- Simplify code language where opportunities exist
 - i.e. Less complex insulation standards
- Maintain higher standard than base energy code
 - Mind the gap: reduce from 20% to 15%?



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2. Suggested Improvements – to respond to stakeholder input to date

- Further streamline commercial prescriptive code
- Support renewable energy integration
- Improve indoor air quality requirements
- Support Combined Heat and Power (CHP)
- Add a HERS tier for Multi-family units
- Align with latest ASHRAE lighting standards
- Use best practices from around the country
- Your input and additional ideas?



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3. New Suggestions / Areas for Improvement

Please view this public outreach period as an opportunity to provide input on ways to improve the stretch energy code in any and all areas



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Residential update options



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1. Maintain core approach - Residential

- New Construction
 - Updates to required HERS ratings
 - Update Energy Star checklist
- Prescriptive option for additions & retrofits
 - Maintain Energy star prescriptive requirements
 - Update Energy Star checklist
 - Option to get HERS rating



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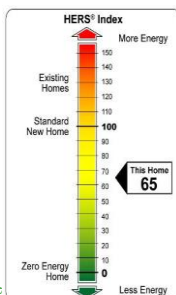
1a. Residential – new construction

What level of Performance improvement?

- Current Stretch HERS is 65 or 70
- IECC 2012 baseline HERS 65
- IECC 2015 baseline HERS 55

Ensuring Indoor air quality:

Base code requires ventilation and Outside air for heating equipment



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1b. Residential – Additions & Renovations

- Stretch code currently requires:
- Energy star windows and doors
- Energy star insulation checklist

Should additional requirements be added?

Should indoor air quality measures be required?



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2. Suggested improvements- Residential

- Stakeholder requested features to date:
 - Coordination with Energy Star Homes
 - Add a 3rd HERS tier for multi-family units
 - Trade-off for Solar PV within HERS rating
 - Improve indoor air quality:
 - Clear ventilation standards
 - Sealed combustion heating equipment
 - Additional training will be provided



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Commercial update options



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1. Maintain core approach - Commercial

- Prescriptive option up to 100,000 sq ft based on next IECC 2015
- ASHRAE/LEED modeling requirement for buildings over 100,000 sq ft.
 - Update from 2007 to 2010 standard
- ASHRAE/LEED modeling requirement for energy intensive buildings over 40,000 sq ft.
 - Labs, Supermarkets, Refrigerated warehouses



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2. Suggested improvements- Commercial

Stakeholder requested features to date:

- Lower the 20% above baseline level to 15%
- Simplify the commercial prescriptive code
- Support renewable energy integration
- Support Combined Heat and Power (CHP)
- Align with latest ASHRAE lighting standards
- Add HERS tier for Multi-family units



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Poll Question #2

- What do you consider most important to address in any updates to the stretch energy code?
 - Estimated incremental costs
 - Adequate training for code officials
 - Outreach to builders & designers
 - Other

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Stretch Code resources

- The Stretch appendix 115.aa is available on MA DPS's webpage:
<http://www.mass.gov/eopss/docs/dps/8th-edition/115-appendices.pdf>
- Additional supporting resources:
<http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/stretch-energy-code-information.html>
- 2-page summary is available here:
<http://www.mass.gov/eea/docs/doer/green-communities/grant-program/stretch-code-summary-jun20-2011.pdf>

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Public Comments

- Please send your comments and any supporting materials to this email:
Stretchcode@state.ma.us
- This email will be available beginning Nov 1st.
- We plan to post comments received on a regular basis beginning in mid-November

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Questions and Comments



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